

Operating manual

Version 1.0.4

OPTIgrind[®]
GB 250B

Brush deburrer

Item no.
3101670

Safety

Technical specification

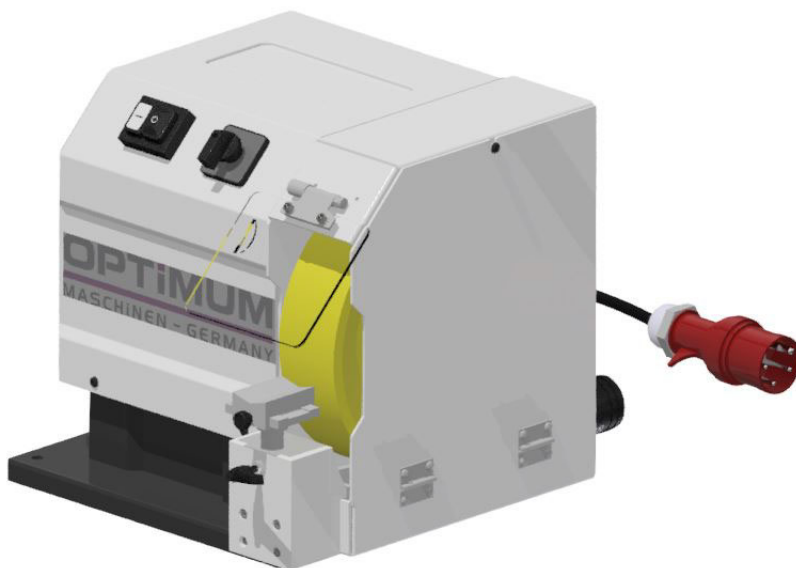
**Delivery, interdepartmental
transport and unpacking**

Operation

Maintenance

Appendix

Ersatzteile - Spare parts



Preface

Dear customer,

Thank you very much for purchasing a product made by OPTIMUM.

OPTIMUM metal working machines offer a maximum of quality, technically optimum solutions and convince by an outstanding price performance ratio. Continuous enhancements and product innovations guarantee state-of-the-art products and safety at any time.

Before commissioning the machine please thoroughly read these operating instructions and get familiar with the machine. Please also make sure that all persons operating the machine have read and understood the operating instructions beforehand.

Keep these operating instructions in a safe place nearby the machine.

The operating instructions include indications for safety-relevant and proper installation, operation and maintenance of the machine. The continuous observance of all notes included in this manual guarantee the safety of persons and of the machine.

The manual determines the intended use of the machine and includes all necessary information for its economic operation as well as its long service life.

In the paragraph "Maintenance" all maintenance works and functional tests are described which the operator must perform in regular intervals.

The illustration and information included in the present manual can possibly deviate from the current state of construction of your machine. Being the manufacturer we are continuously seeking for improvements and renewal of the products. Therefore, changes might be performed without prior notice. The illustrations of the brush deburrer may be different from the illustrations in these instructions with regard to a few details. However, this does not have any influence on the operability of the brush deburrer.

Therefore, no claims may be derived from the indications and descriptions. Changes and errors are reserved!

Your suggestion with regard to these operating instructions are an important contribution to optimising our work which we offer to our customers. For any questions or suggestions for improvement, please do not hesitate to contact our service department.

If you have any further questions after reading these operating instructions and you are not able to solve your problem with a help of these operating instructions, please contact your specialised dealer or directly the company OPTIMUM.

Optimum Maschinen Germany GmbH

Dr.- Robert - Pfleger - Str. 26

D-96103 Hallstadt

Fax (+49)0951 / 96555 - 888

Email: info@optimum-maschinen.de

Internet: www.optimum-machines.com

1 Safety

Glossary of symbols

	provides further instructions
	calls on you to act
	listings

This part of the operating instructions

-  explains the meaning and use of the warning notes included in these operating instructions,
-  defines the intended use of the brush deburrer,
-  points out the dangers that might arise for you or others if these instructions are not observed,
-  informs you about how to avoid dangers.

In addition to these operating instructions, please observe

-  the applicable laws and regulations,
-  the statutory provisions for accident prevention,
-  the prohibition, warning and mandatory signs as well as the warning notes on the brush deburrer.

Always keep this documentation close to the brush deburrer.

1.1 Safety instructions (warning notes)

1.1.1 Classification of hazards

We classify the safety warnings into different categories. The table below gives an overview of the classification of symbols (ideogram) and the warning signs for each specific danger and its (possible) consequences.

Symbol	Alarm expression	Definition / consequence
	DANGER!	Impending danger that will cause serious injury or death to people.
	WARNING!	A danger that can cause serious injury or death.
	CAUTION!	A danger or unsafe procedure that can cause personal injury or damage to property.
	ATTENTION!	Situation that could cause damage to the brush deburrer and product, as well as other types of damage. No risk of injury to persons.
	INFORMATION	Practical tips and other important or useful information and notes. No dangerous or harmful consequences for people or objects.

1.1.2 Other pictograms



Activation forbidden!



Warning: flammable substances!



Warning: suspended loads!



Warning: risk of stumbling!



Warning: tilting danger!



Warning: automatic start-up!



Warning: biological hazard!



Warning: injuries to hands!



Read the operating instruction before commissioning!



Pull out the mains plug!



Wear protective glasses!



Use face shield!



Wear safety shoes!



Wear a protective suit!



Use ear protection!



Protect the environment!

1.2 Intended use

WARNING!

In the event of improper use, the brush deburrer

- o may be a hazard to personnel,
- o the brush deburrer and other property of the operating company will be endangered,
- o the functionality of the brush deburrer may be compromised.



The brush deburrer is designed and built exclusively for deburring workpieces. The brush deburrer must be used exclusively for this purpose.

If the brush deburrer is used in any way other than described above, modified without authorization of Optimum Maschinen Germany GmbH, then the brush deburrer is being used improperly.

We accept no liability for damage resulting from improper use.

We expressly point out that the guarantee will expire, if any constructive, technical or procedural changes are not performed by the company Optimum Maschinen Germany GmbH. It is also part of the intended use that you

- o the limits of performance of the brush deburrer are observed,
- o the operating manual is observed,
- o the inspection and maintenance instructions are observed.

WARNING!

Severe injuries due to non-intended use.



It is forbidden to make any modifications or alternations to the operating parameters values of the brush deburrer. They could pose an accident hazard to persons and cause damage to the brush deburrer.

ATTENTION!

If the brush deburrer is not used as intended or if the safety directives or the operating instructions are ignored the liability of the manufacturer for any damages to personnel or objects resulting hereof is excluded and the claim under guarantee is becoming null and void!



1.3 Reasonably foreseeable misuse

Any other use other than that specified under "Intended use" or any use beyond the described use shall be deemed as non-intended use and is not permissible.

Any other use has to be discussed with the manufacturer.

In order to avoid misuse, it is necessary to read and understand the operating instructions before first commissioning.

Operators must be qualified.

1.3.1 Avoiding misuse

- The direction of rotation of the brush deburrer must be counterclockwise. If the phase sequence is not used correctly, it is possible to operate the brush deburrer in the wrong direction of rotation.

We expressly point out that the guarantee will expire, if any constructive, technical or procedural changes are not performed by the company Optimum Maschinen Germany GmbH.



WARNING!

Risk of injury caused by flying workpieces. Injuries caused by sharp-edged fragments of workpieces. Injury by single needles flying away of the brush. Wear protective gloves, a leather apron and a face shield.

Make sure that the counter support for the workpiece is set at the correct height and is firmly clamped.



1.4 Dangers that can be caused by the brush deburrer

The brush deburrer was built using state-of-the-art technology. Nevertheless, there is a residual risk, as the brush deburrer operates with

- high speeds,
- rotating parts,
- with an deburring brush,
- electrical voltage and currents.

We have used design and safety engineering to minimize the health risk to personnel resulting from these hazards.

If the brush deburrer is used and maintained by personnel who are not duly qualified, there may be a risk resulting from its incorrect or unsuitable maintenance.

INFORMATION

Everyone involved in the assembly, commissioning, operation and maintenance must

- be duly qualified,
- and strictly follow these operating instructions.



Always disconnect the brush deburrer from the electrical power supply before performing cleaning or maintenance tasks.

WARNING!

The brush deburrer may only be operated with the side cover closed. Operation with the side cover open leads to dangerous conditions for the operator.

Disconnect the brush deburrer immediately, whenever you detect a failure in the safety devices or when they are not fitted!

All additional devices installed by the operator must be equipped with the stipulated safety devices. This is your responsibility as the operator!



1.5 Personnel qualification

1.5.1 Target group

This manual is addressed to

- the operating companies,
- the operators,
- the maintenance personnel.

Consequently, the warning notes refer both to the use of the brush deburrer and to its maintenance.

Always disconnect the brush deburrer from the electrical power supply. This will prevent it from being used by unauthorized persons.

The qualifications of the personnel for the different tasks are mentioned below:



Operator

The user must have been instructed by the operator about the assigned tasks and possible risks in case of improper behaviour. The user may only carry out tasks that exceed normal operation if this is stated in these instructions and the operator has explicitly entrusted him with the task.

Qualified electrician

With professional training, knowledge and experience as well as knowledge of respective standards and regulations, qualified electricians are able to perform work on the electrical system and recognise and avoid any possible dangers.

Qualified electricians have been specially trained for the working environment, in which they are working and know the relevant standards and regulations.

Qualified personnel

Due to their professional training, knowledge and experience as well as knowledge of relevant regulations, qualified personnel are able to perform the assigned tasks and to independently recognise and avoid any possible dangers.

Instructed person

Instructed persons were instructed by the operating company regarding the assigned tasks and any possible risks of improper behaviour.

INFORMATION

Everyone involved in the assembly, commissioning, operation and maintenance must

- be duly qualified,
- and strictly follow these operating instructions.

In the event of improper use

- there may be a risk to personnel,
- the grinding machine and other property and



- the functionality of the brush deburrer may be compromised.

1.6 User positions

The user position is in front of the brush deburrer.

1.7 Safety measures during operation

1.8 Safety devices

WARNING!

If you bypass, remove or override a safety device in any other way, you are endangering yourself and other persons working with the brush deburrer. The possible consequences are:

- injuries due to components or workpieces flying off at high speed,
- contact with rotating parts,
- fatal electrocution.



The brush deburrer must only be operated with fully functional safety devices.

Stop the brush deburrer immediately if there is a failure on the safety device or becomes ineffective.

It is your responsibility!

If a safety device has been activated or has failed, the grinding machine must only be used if

- the cause of the fault has been eliminated,

The brush deburrer features the following safety devices:

- A protective glass as protection against fractions of workpiece parts and possible individual needles of the brush flying away from the brush.
- A side protection cover for the shaft end of the brush.
- A support surface for the workpiece.
- A restart protection that prevents the unit from restarting independently by connecting the power supply.

WARNING!

Although the isolating safety devices provided and delivered with the machine are designed to reduce the risks of workpieces being ejected or parts of tools or workpieces breaking off, they cannot eliminate these risks completely. Always work carefully and observe the limit values of the process.



1.9 For your own safety during operation

WARNING!

Before switching the brush deburrer on, make sure that there is no risk of personal injury or damage to property.

Avoid any unsafe work methods:

- The instructions mentioned in these operating instructions have to be strictly observed during assembly, operation, maintenance and repair.
- Wear a face shield, protective gloves and a leather apron.
- Do not work on the brush deburrer, if your concentration is reduced, for example, because you are taking medication.
- Stay on the brush deburrer until the rotation of the brush has come to a complete stop.
- Use the specified personal protective equipment. Ensure you wear close-fitting clothing and, if necessary, a hairnet.
- Make sure that your operation does not create a safety hazard.



1.10 Disconnecting and securing the brush deburrer

Disconnect the mains plug before starting maintenance and repairs.



1.11 Emissions

The noise emission of the brush deburrer is in the range of 72 to 76 dB(A). If the brush deburrer is installed in an area where various machines are in operation, the noise exposure (immis-sion) on the operator of the brush deburrer at the working place may exceed 80 dB(A).

INFORMATION

This numerical value was measured on a new machine under the operating conditions specified by the manufacturer. The noise behaviour of the machine might change depending on the age and wear of the machine.



In addition, the value of the noise emission also depends on manufacturing factors, e.g. the wall thickness of a pipe to be deburred.

INFORMATION

The specified numerical value represents the emission level and does not necessarily a safe working level. Though there is a dependency between the degree of the noise emission and the degree of the noise disturbance it is not possible to use it reliably to determine if further precaution measures are required or not. The following factors influence the actual degree of the noise exposure of the operator:



- Characteristics of the working area, e.g. size or damping behaviour,
- other noise sources, e.g. the number of machines,
- other processes taking place in proximity and the period of time, during which the operator is exposed to the noise.

Furthermore, it is possible that the admissible exposure level might be different from country to country due to national regulations. This information about the noise emission should, however, allow the operator of the machine to more easily evaluate the hazards and risks.

CAUTION!

Depending on the overall noise exposure and the basic threshold values, machine operators must wear appropriate hearing protectors. We generally recommend the use of noise and ear protection.



2 Technical specification

Electrical connection	400V ~ 50Hz
Motor power	1,8 / 1,3 Kw
Current consumption	3,0 A / 2,3 A
Speed [min ⁻¹]	2850 / 1450
Brush dimensions	Diameter 250mm, width 40mm, Shaft bore 25,3mm Shaft Ø 25mm 0.35mm wire thickness (standard delivery)
Circumferential speed	37.3 m/s at 2850 min ⁻¹
Extraction socket	50mm
Machine net weight [kg]	36

GB250B_GB.fm

3 Delivery, interdepartmental transport and unpacking

CAUTION!

Injuries caused by parts falling over or off a forklift, pallet truck or transport vehicle. Only use means of transport that can carry the total weight and are suitable for it.



3.1 Notes on transport, installation and unpacking

Improper transport of individual devices and minor machines, unsecured devices and minor machines stacked on top of each other or next to each other in packed or already unpacked condition is accident-prone and can cause damage or malfunctions for which we do not grant any liability or guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.

3.1.1 General risks during internal transport

CAUTION: DANGER OF TIPPING!

The device may be lifted unsecured by a maximum of 2cm.

Employees must be outside the danger zone, the reach of loads. Warn employees and, if necessary, advise employees of the hazard.



Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturbances as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, disturbances and unevenness at the time of transport by other employees leads to considerable dangers.

Careful planning of internal transport is therefore essential.

3.2 Unpacking and connecting

The brush deburrer is mounted ready for operation. In order to obtain the correct direction of rotation, the phase sequence must be changed if necessary. This is done at your three-phase connection or - if equipped with it - at the three-phase connector by changing the phase sequence.



3.3 Scope of delivery

Check the brush deburrer immediately after delivery for transport damage, missing parts and loose locking bolts. Compare the scope of delivery with the delivery note. Brushes are available in specialist shops or from our main catalogue.

3.4 Storage

ATTENTION!

Incorrect and improper storage might result in damage or destruction of electrical and mechanical machine components.



Store packed and unpacked parts only under the intended environmental conditions. Follow the instructions and information on the transport box.

Consult Optimum Maschinen Germany GmbH if the machine and accessories are stored for more than three months or are stored under different environmental conditions than those specified here.

3.5 Set-up and assembly

3.5.1 Installation site requirements

Organise the working area around the grinding machine according to the local safety regulations.

CAUTION!

The brush deburrer must be firmly connected to the substructure. For this purpose there are holes in the base to screw the brush deburrer to your worktable.



INFORMATION

In order to achieve high levels of functionality and machining accuracy, as well as a long service life of the machine, the set-up location should meet certain criteria.

The following points should be noted:

- The device must only be installed and operated in a dry and well-ventilated place.
- The work table must be suitable for the brush deburrer. If necessary, this table must also be firmly connected to the subfloor.
- Provide enough space for set-up and operating personnel and material transport.
- Ensure adequate lighting is available (minimum value: 500 Lux, measured at the tool tip). In the event of a lower level of lighting, additional illumination must be provided, e.g. by means of a separate workplace light.
- The power plug of the brush deburrer must be readily accessible.



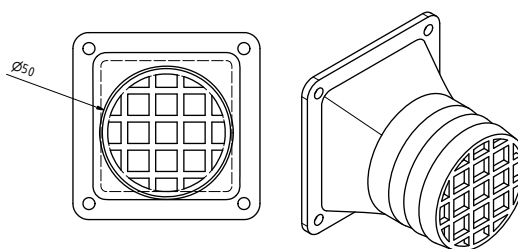
CAUTION!

Arrange the machine's connection cable in such a way that it will not cause a tripping hazard.

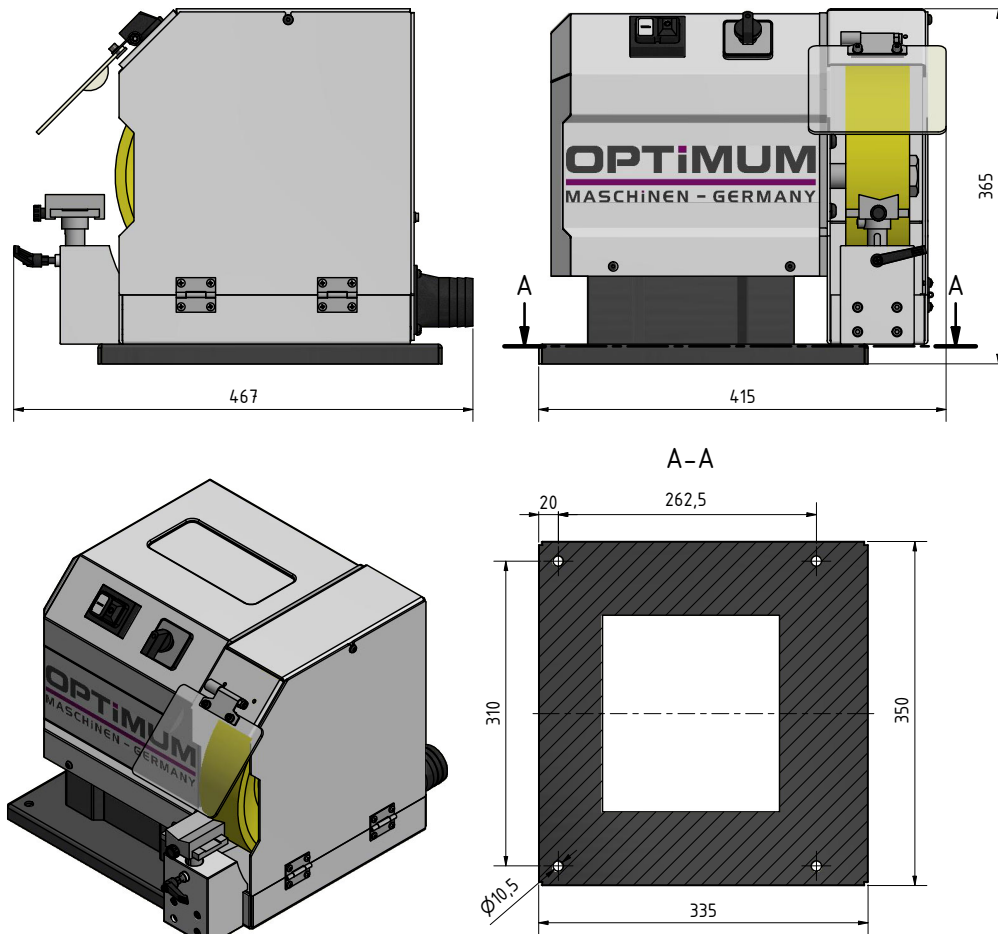


3.5.2 Extraction socket

For certain operations, it may be appropriate to connect the brush deburrer to an extraction system or to an industrial vacuum cleaner. The suction connection at the rear of the brush deburrer is 50 mm in outer diameter.



3.6 Dimensions



3.7 First commissioning

ATTENTION!

Before commissioning the machine, all bolts, fastenings and protections must be checked and retightened as necessary!



WARNING!

Danger from the use of unsuitable deburring brushes. Only use deburring brushes that can withstand the speed requirements and loads that occur.



WARNING!

First commissioned of the brush deburrer by inexperienced personnel constitute a risk to personnel and equipment.



We do not accept any liability for damages caused by incorrectly performed commissioning.

- Personnel qualification on page 6

4 Operation

The workpiece support can be adjusted for certain grinding operations. You can adjust the workpiece support at any height and any angle by loosening the clamping screw.

The step switch enables you to switch from a low speed to a higher speed.

ATTENTION!

Step switch! Please note that the fixing nut of the brush can become loose due to frequent abrupt switching of the speed to a lower speed. Therefore, first switch off the grinding machine and only then use the step switch.

If the drive is overloaded, the motor-protective circuit-breaker may trip. To reset the motor protection switch, press the button on the rear of the unit.



5 Maintenance

In this chapter you will find important information about

- Inspection
- Maintenance
- Repair

of the brush deburrer.

ATTENTION!

Properly performed regular maintenance is an essential prerequisite for

- operational safety,
- failure-free operation,
- a long working life of the brush deburrer and
- the quality of the products which you manufacture.

Installations and equipment from other manufacturers must also be in good order and condition.



5.1 Inspection and maintenance

INFORMATION

The bearing is lifetime-lubricated. It is not necessary to lubricate it again.

CAUTION!

Deburring brushes should be replaced if they show visible wear or if they show noticeable imbalance due to wear.



5.2 Replacing the brush

- Loosen the side cover fixing screw and open the cover.
- Loosen the shaft nut.
- Hold the brush with gloves to be able to loosen the nut. Pay attention to the correct direction of rotation to loosen the nut. On newer machines, there is already a counter-hold on the shaft to be able to tighten the nut. Basically, however, hand force is sufficient to hold the brush firmly and to loosen or tighten the nut.
- Remove the old brush from the shaft by hand. In case of contamination, a few drops of oil will help to pull the brush off the shaft more easily.

5.3 Repair

Optimum Maschinen Germany GmbH accepts no liability nor does it guarantee against damage and operating malfunctions resulting from failure to observe these operating instructions.

Use only perfect and suitable tools, only original spare parts or serial parts expressly approved by Optimum Maschinen Germany GmbH for repairs.

6 Appendix

6.1 Copyright

This document is protected by copyright. All derived rights are reserved, especially those of translation, re-printing, use of figures, broadcast, reproduction by photo-mechanical or similar means and recording in data processing systems, either partial or total.

Subject to technical changes without notice.

6.2 Liability claims/warranty

Besides the legal liability claims for defects of the customer towards the seller, the manufacturer of the product, OPTIMUM GmbH, Robert-Pfleger-Straße 26, D-96103 Hallstadt, does not grant any further warranties unless they are listed below or were promised as part of a single contractual provision.

- Liability or warranty claims are processed at OPTIMUM GmbH's discretion either directly or through one of its dealers.
Any defective products or components of such products will either be repaired or replaced by components which are free from defects. Title to replaced products or components is transferred to OPTIMUM Maschinen Germany GmbH.
- The automatically generated original proof of purchase which shows the date of purchase, the type of machine and the serial number, if applicable, is the precondition in order to assert liability or warranty claims. If the original proof of purchase is not presented, we are not able to perform any services.
- Defects resulting from the following circumstances are excluded from liability and warranty claims:
 - Using the product beyond the technical options and proper use, in particular due to overstraining of the machine.
 - Any defects arising by one's own fault due to faulty operations or if the operating manual is disregarded.
 - Inattentive or incorrect handling and use of improper equipment
 - Unauthorized modifications and repairs
 - Insufficient installation and safeguarding of the machine
 - Disregarding the installation requirements and conditions of use
 - atmospheric discharges, overvoltage and lightning strokes as well as chemical influences
- Neither are the following items covered by liability or warranty claims:
 - Wearing parts and components which are subject to normal and intended wear, such as V-belts, ball bearings, lighting, filters, seals, etc.
 - Non reproducible software errors
- Any services, which OPTIMUM GmbH or one of its agents performs in order to fulfil any additional warranty are neither an acceptance of the defects nor an acceptance of its obligation to compensate. These services neither delay nor interrupt the warranty period.
- The court of jurisdiction for legal disputes between businessmen is Bamberg.
- If any of the aforementioned agreements is totally or partially inoperative and/or invalid, a provision which nearest approaches the intent of the guarantor and remains within the framework of the limits of liability and warranty which are specified by this contract is deemed agreed.

6.3 Advice for disposal / Options of re-use

Please dispose of your equipment in an environmentally friendly manner, by not placing waste in the environment but in a professional manner.

Please do not simply throw away the packaging and later the disused machine, but dispose of both in accordance with the guidelines laid down by your city council/local authority or by an authorised disposal company.

6.3.1 Decommissioning

CAUTION!

Immediately decommission used machines in order to avoid later misuse and endangering of the environment or of persons.

- o Cut the connection cable.
- o Disassemble the machine if required into easy-to-handle and reusable assemblies and component parts.
- o Dispose of machine components and operating fluids using the intended disposal methods.



6.3.2 Disposal of new device packaging

All used packaging materials and packaging aids from the machine are recyclable and generally need to be supplied to the material reuse.

Any packaging components made of cardboard box can be chopped up and supplied to the waste paper collection. The films are made of polyethylene (PE) and the cushion parts are made of polystyrene (PS). These materials can be reused after reconditioning if they are passed to a collection station or to the appropriate waste management enterprise.

Only forward the packaging materials correctly sorted to allow direct reuse.

INFORMATION

Please take care in your interest and in the interest of the environment that all component parts of the machine are only disposed of in the intended and admitted way.

Please note that the electrical devices comprise a variety of reusable materials as well as environmentally hazardous components. Please ensure that these components are disposed of separately and professionally. In case of doubt, please contact your municipal waste management. If appropriate, call on the help of a specialist waste disposal company for the treatment of the material.



6.3.3 Disposal of electrical and electronic components

Please make sure that the electrical components are disposed of professionally and according to the statutory provisions.

The device is composed of electrical and electronic components and must not be disposed of as household waste. According to the European Directive regarding electrical and electronic used devices and the implementation of national legislation, used power tools and electrical machines need to be collected separately and supplied to an environmentally friendly recycling centre.

As the machine operator, you should obtain information regarding the authorised collection or disposal system which applies for your company.

6.4 Disposal through municipal collection facilities

Disposal of used electrical and electronic components

(Applicable in the countries of the European Union and other European countries with a separate collecting system for those devices).

The sign on the product or on its packing indicates that the product must not be handled as common household waste, but that it needs to be disposed of at a central collection point for recycling. Your contribution to the correct disposal of this product will protect the environment and the public health. Incorrect disposal constitutes a risk to the environment and public health. Recycling of material will help reduce the consumption of raw materials. For further information about the recycling of this product, please consult your District Office, municipal waste collection station or the shop where you have purchased the product.



6.4.1 Change information operating manual

Chapter	Short summary	new version number
2	Machine weight	1.0.1
3	Interpartmental transport	1.0.2
2	Shaft diameter, brush bore	1.0.3
parts	Updated wiring diagram	1.0.4

6.5 Product follow-up

We are required to perform a follow-up service for our products which extends beyond shipment.

We would be grateful if you could send us the following information:

- ☐ Modified settings
- ☐ Any experiences with the brush deburrer which might be important for other users
- ☐ Recurring failures of the brush deburrer.

EC - Declaration of Conformity

according to Machinery Regulation 2023/1230 Annex V Part A

The manufacturer/ Optimum Maschinen Germany GmbH
Distributor: Dr. Robert-Pfleger-Str. 26
D - 96103 Hallstadt

hereby declares that the following product

Product designation: GB250B

Type designation: Brush deburrer

Brush deburrer for private persons, as well as craft and industrial companies, which complies with all relevant provisions of the above mentioned Machinery Regulation as well as the other directives applied (hereinafter) - including their amendments valid at the time of the declaration.

The following additional EU directives have been applied:

EMC Directive 2014/30/EU ; Restriction of the use of certain hazardous substances in electrical and electronic equipment 2015/863/EU

The following harmonized standards were applied:

EN 60204-1:2019-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

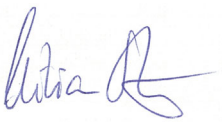
EN 50370-1:2006-02 Electromagnetic compatibility (EMC) - Product family standard for machine tools - Part 1: Emission

EN ISO 13849-1:2016-06 Safety of machinery - Safety-related parts of control systems

EN ISO 12100:2011-03 Safety of machinery - General principles for design - Risk assessment and risk reduction

Name and address of the person authorized to compile the technical file:

Kilian Stürmer, phone: +49 (0) 951 96555 - 800



Kilian Stürmer
(CEO, General Manager)

Hallstadt, 2023-11-07

7 Ersatzteile - Spare parts

7.1 Ersatzteilbestellung - Ordering spare parts

Bitte geben Sie folgendes an - *Please indicate the following :*

- Seriennummer - *Serial No.*
- Maschinenbezeichnung - *Machines name*
- Herstellungsdatum - *Date of manufacture*
- Artikelnummer - *Article no.*

Die Artikelnummer befindet sich in der Ersatzteilliste. *The article no. is located in the spare parts list.* Die Seriennummer befindet sich am Typschild. *The serial no. is on the rating plate.*

7.2 Hotline Ersatzteile - Spare parts Hotline



+49 (0) 951-96555 -118
ersatzteile@stuermer-maschinen.de



7.3 Service Hotline



+49 (0) 951-96555 -100
service@stuermer-maschinen.de



7.4 Ersatzteilzeichnungen - Spare part drawings

A GB250B

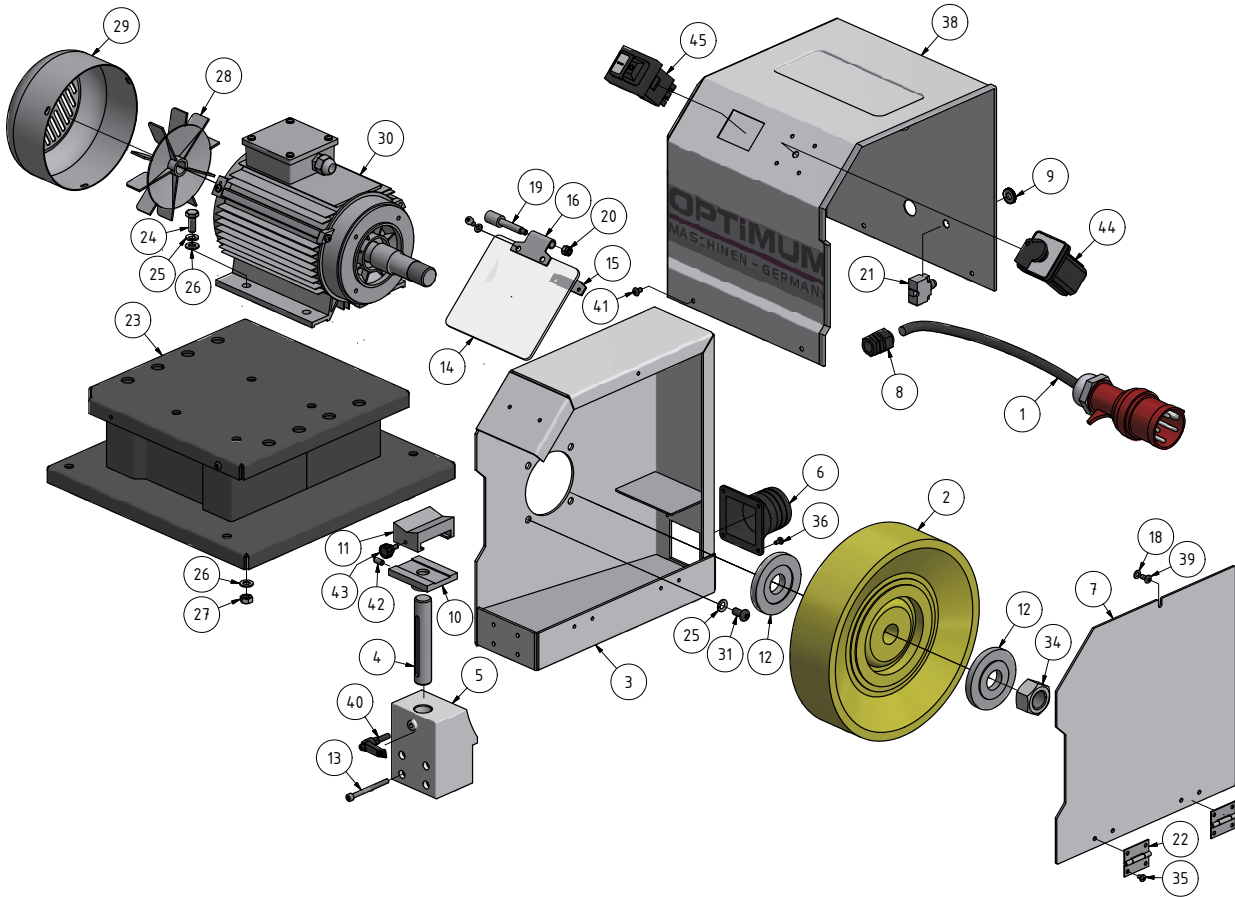


Abb.7-1: Ersatzteilzeichnung - Spare parts drawing

Teilleiste - Parts list - GB250B					
Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
Pos. 1	Anschlusskabel GB250B	Plug cable GB250B	1		
Pos. 2	Bürste 0,35mm Drahtstärke GB250B	Brush, wire thickness 0.35mm GB250B	1	for steel, für Stahl	3107450
Pos. 3	Gehäuse GB250B	Housing GB250B	1	03101670	0310167003
Pos. 4	Welle GB250B	Shaft GB250B	1		0310167004
Pos. 5	Halter GB250B	Holder GB250B	1		0310167005
Pos. 6	Absaugstutzen GB250B	Connecting piece GB250B	1		0310167006
Pos. 7	Abdeckung GB250B	Cover GB250B	1		0310167007
Pos. 8	Zugentlastung GB250B	Strain GB250B	1		0310167008
Pos. 9	Klemmmutter GB250B	Clamping nut GB250B	1		0310167009
Pos. 10	Halter GB250B	Holder GB250B	1		0310167010
Pos. 11	Führung GB250B	Guide GB250B	1		0310167011
Pos. 12	Scheibe GB250B	Washer GB250B	2		0310167012
Pos. 13	Innensechskantschraube GB250B	Socket head screw GB250B	4	M5x60	
Pos. 14	Funkenschutz GB250B	Sparks safety GB250B	1		0310167014
Pos. 15	Platte GB250B	Plate GB250B	1		0310167015
Pos. 16	Halter GB250B	Holder GB250B	1		0310167016
Pos. 17	Innensechskantschraube GB250B	Socket head screw GB250B	2	ISO 4762 - M5 x 8	
Pos. 18	Scheibe GB250B	Washer GB250B	3	DIN 125 - A 5,3	
Pos. 19	Welle GB250B	Shaft GB250B	1		0310167019
Pos. 20	Sechskantmutter GB250B	Hexagon nut GB250B	1	M6	
Pos. 21	Motorschutzschalter GB250B	Motor safety switch GB250B	2		0310167021
Pos. 22	Scharnier GB250B	Hinge GB250B	2		0310167022
Pos. 23	Sockel GB250B	Stand GB250B	1		0310167023
Pos. 24	Sechskantschraube GB250B	Hexagon screw GB250B	4	ISO 4017 - M8 x 20	
Pos. 25	Federring GB250B	Spring ring GB250B	8	DIN 128 - A8	

Teilleiste - Parts list - GB250B					
Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
Pos. 26	Scheibe GB250B	Washer GB250B	8	DIN 125 - A 8,4	
Pos. 27	Sechskantmutter GB250B	Hexagon nut GB250B	4	ISO 4032 - M8	
Pos. 28	Lüfter GB250B	Fan GB250B	1		0310167028
Pos. 29	Abdeckung GB250B	Cover GB250B	1		0310167029
Pos. 30	Motor GB250B	Motor GB250B	1		0310167030
Pos. 31	Schraube GB250B	Screw GB250B	4	ISO 7380-1 - M8 x 16	
Pos. 32	Sicherungsring GB250B	Retaining ring GB250B	1	DIN 471 - 25x1,2	
Pos. 33	Passfeder GB250B	Fitting key GB250B	1		0310167033
Pos. 34	Sechskantmutter GB250B	Hexagon nut GB250B	1		0310167034
Pos. 35	Schraube GB250B	Screw GB250B	8	M4x6	
Pos. 36	Schraube GB250B	Screw GB250B	4	ISO 7045 - M4 x 8	
Pos. 37	Scheibe GB250B	Washer GB250B	4	DIN 125 - A 4,3	
Pos. 38	Haube GB250B	Housing GB250B	1		0310167038
Pos. 39	Schraube GB250B	Screw GB250B	1	ISO 7380 - M5 x 10	
Pos. 40	Spannhebel GB250B	Clamping lever GB250B	1		0310167040
Pos. 41	Schraube GB250B	Screw GB250B	4	ISO 7380-1 - M5 x 8	
Pos. 42	Gewindestift GB250B	Grub screw GB250B	1	DIN 913 - M6 x 12	
Pos. 43	Klemmschraube GB250B	Clamping screw GB250B	1		0310167043
Pos. 44	Wahlschalter GB250B	Mode switch GB250B	1		0310167044
45	Ein-Aus-Taster GB250B	On-Off button GB250B	1	KJD18-400V	0310167045

7.5 Schaltplan - Wiring diagram

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